Fall 2016 Levee Maintenance Deficiency Summary Report Overall LMA & Unit Ratings, including USACE Erosion Survey

Sacramento River Basin

** SBFCA currently has operation and maintenance obligations during project construction and closeout.

ST0005	Overall LMA	Total LMA						
Sutter Maintenance Yard Hamilton Bend	Rating	Miles						
	U	3.39			•			
Rated Item		Maintena	nce Deficiancy		Enforc	ement	Design & System Obsolescence	
Nateu item	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles
Earthen Levee								
Vegetation	1.15	0.01	1.19	35.06%				
Trim / Thin Trees	1.36	0.71	4.20	123.73%				
Encroachments					0.85			
Supplemental								
DWR UCIP Field Study					0.02			
LMA Totals:	2.51	0.72	5.39	158.79%	0.87	0.00	0.00	0.00
Unit No. 01 Feather River Hamilton Bend RB	Overall Unit Rating	Total Unit Miles						
ST0005	U	3.39						
	Maintenance Deficiancy			Enforcement		Design & System Obsolescence		
Rated Item	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	
Earthen Levee								
Vegetation	1.15	0.01	1.19	35.06%				
vegetation	1.13	0.01		00.0070				
Trim / Thin Trees	1.15	0.71	4.20	123.73%				
					0.85			
Trim / Thin Trees					0.85			
Trim / Thin Trees Encroachments					0.85			

LMA District Cover Sheet

Fall 2016 Levee Inspection Results

Sutter Maintenance Yard Hamilton Bend

	Spring (March - May)	Summer ** (June - August)	Fall (September - November)	Winter ** (December - February)
† Overall LMA Rating (Fall Only)			U	

** Non-receipt of Summer or Winter Inspection Reports may effect overall annual rating.

	Reports may effect overall annual rating.
	Overall maintenance ratings are not determined for the spring inspection results. Individual maintenance deficiencies are rated using the same criteria in the spring and in the fall.
	The overall maintenance rating shown above is based on operation and maintenance deficiencies identified within the attached unit inspection reports. This rating is not intended to be an indiction of risk.
Comments	

Unit Cover Sheet

Fall 2016 Levee Inspection Results

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles
Unit No. 01 Feather River Hamilton Bend	Right	3.39

	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)			U	
Date of Inspection	4/5/2016 - 4/8/2016		9/7/2016 - 9/7/2016	
DWR Inspector	Sterling York		Sterling York	
Accompanied By	Shawn Freitag Sutter Maintenance Yard		Shawn Freitag Sutter Maintenance Yard	

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

http://cdec.water.ca.gov/lma.html

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

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Flood Control Project Maintenance Levee Inspections

Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LNA Ctart		Rating **	Α	Issue No.		7	_
LM Start		Rating	Α	issue ivo.			
LM End		Issue Type +	Ма	Location *		WS	
Category	Earthen L	evee		GPS La	atitud	e/Longitude	
Category				Start		End	
ltom	Item Operations & Maintenance Manuals				0		0
item					0		0
DWR ID	DWR_ST0	005_01_s _ 201	3_7				
		Comn	nent Cod	de			
	Inspector Comment						
	There will be new O&M manuals when the levee is turned back over to the LMA after construction is complete. The old O&M manuals are						

No Photos

Rating ** Issue No. LM Start 8 Issue Type + Ма Location * WS LM End Earthen Levee GPS Latitude/Longitude Category Start End

DWR ID DWR_ST0005_01_s _ 2013_8

Equipment

Item

Emergency Supplies &

located at the Sutter Maintenance Yard.

Comment Code

Inspector Comment

Emergency supplies and equipment are stored at the Sutter Maintenance Yard.

No Photos

LM Start		Rating **	Α	Issue No.		9		
LM End		Issue Type +	Ma	Location *		WS		
Category	Earthen L	evee	GPS Latitude/Longitude			e/Longitude		
Calegory						End		
Item	Flood Pre	paredness &	Training		0		0	
item					0		0	
DWR ID	DWR_ST0	005_01_s _ 201	3_9					
		Comn	nent Cod	le				
	Inspector Comment							
	Sutter Maintenance Yard employees attend the annual Flood Fight class put on by DWR inspector Bob Duffy.							

U : Unacceptable

No Photos

En: Enforcement

* Location + Issue Type N : Not Inspected/Rated C : Corrected Ma : Maintenance Deficiancy
Ob : Design & System Obsolescence LS : Land Side N/A: Not Applicable A : Acceptable M : Minimally Acceptable WS: Water Side

A/W : Acceptable but Monitor & Maintain

Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	0.01	Rating **	М	Issue No.		16
LM End	0.97	Issue Type +	Ma	Location *		WS
Category	Earthen L	evee		GPS La	atitud	e/Longitude
Calegory			Start		End	
Item	Vegetatio	n		39.4398	58°	39.453502°
пеш				-121.6414	52°	-121.640238°
DWR ID	DWR_ST00	005_01_s _ 201	6_16			
		Comn	nent Cod	de		
V4 : Elderk	perries are	blocking visib	ility and	flood fight	сара	bility.
		Inspecto	or Comm	nent		

No Photos

Rating ** Issue No. 0.01 Α 25 LM Start Issue Type + Location * WS LM End 1.22 En Earthen Levee GPS Latitude/Longitude Category Start End Encroachments 39.439858° 39.456789° -121.641452 ° -121.639255 ° DWR ID DWR_ST0005_01_s _ 2016_25

Comment Code

EQ: Equipment

Inspector Comment

ST0005 Unit 1 has recently been reconstructed from levee mile 0.0 to 1.22, but has not been turned back over to the LMA. There is no maintenance on this Unit at this time by the LMA.

No Photos

LM Start 0.19 Rating ** Issue No. 15 Issue Type + Location * ws LM End 0.19 Ma Earthen Levee GPS Latitude/Longitude Category End Vegetation 39.442435° 39.442435° Item -121.641760° -121.641760° DWR_ST0005_01_s _ 2015_15 DWR ID Comment Code

V4: Elderberries are blocking visibility and flood fight capability.

Inspector Comment

No Photos

* Location

N/A: Not Applicable LS: Land Side

WS: Water Side

A : Acceptable M : Minimally Acceptable U : Unacceptable

N: Not Inspected/Rated C : Corrected

+ Issue Type

Ma : Maintenance Deficiancy
Ob : Design & System Obsolescence

En: Enforcement

Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	0.73	Rating **	М	Issue No.		14	
LM End	0.91	Issue Type +	En	Location *	WS		
Earthen Levee				GPS Latitude/Longitude			
Calegory	Category			Start		End	
ltom	Encroachi	ments		39.4501	09°	39.452643°	
item	Item				51 °	-121.640316 °	
DWR ID DWR_ST0005_01_s _ 2016_14							
Comment Code							

TR: Tree or limb

Inspector Comment

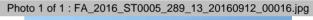
trees smaller than 4" in diameter at chest height should be removed before they get any bigger.

Photo 1 of 1: FA_2016_ST0005_289_14_20160906_00003.jpg



View looking upstream of trees. Small trees 4" in diameter at chest height should be removed before they get to big., Spring 2016.

LM Start	0.80	Rating **	М	Issue No.		13			
LM End	0.80	Issue Type +	En	Location *		WS			
Category Earthen Levee			GPS Latitude/Longitude						
Category				Start		End			
Item	Encroachi	ments		39.4509	989°	39.450989°			
item			-121.6407	'82 °	-121.640782 °				
DWR ID	DWR ID DWR_ST0005_01_s _ 2016_13								
		Comn	nent Cod	de					
PO : Pole									
		Inspecto	or Comm	nent					
Pole on waterside slope.									
	•								
Pole on wa	aterside slo	•	or Comm	nent					





View of pole on waterside slope.

LM Start	1.57	Rating **	М	Issue No.	11			
LM End	2.23	Issue Type +	En	Location *	WS			
Category Earthen Levee			GPS Latitude/Longitude					
Category	gory			Start		End		
Item	Encroach	ments		39.45917	79°	39.463828°		
пеш				-121.63626	-121.636261 ° -121.6258			
DWR ID DWR_ST0005_01_f _ 2016_11								
	Comment Code							

PR : Prunings

Inspector Comment

Annual grasses need to be maintained by contractor until levee is turned back over to ST0005.

Photo 1 of 1: FA_2016_ST0005_289_11_20160912_00015.jpg



View of waterside annual grasses that need to be maintained.

* Location	** Rating		+ Issue Type
LS: Land Side N/A: Not Applicable WS: Water Side CR: Crown	A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	Ma : Maintenance Deficiancy Ob : Design & System Obsolescence En : Enforcement

Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	1.69	Rating **	М	Issue No.		5		
LM End	3.04	Issue Type +	Ma	Location *		WS		
Category Earthen Levee				GPS La	atitud	e/Longitude		
Calegory				Start		End		
Itom	Trim / Thin Trees			39.4594	51°	39.469081°		
Item		-121.633670 °		-121.612535°				
DWR ID	DWR_ST0	005_01_s _ 201	3_5					
		Comn	nent Cod	de				
Inspector Comment								
Trees sma	ller than 4	" in diameter a	at chest	height shou	ıld b	e removed		

Trees smaller than 4" in diameter at chest height should be removed before they get any bigger.



W/S trees 4" in diameter at chest height should be removed before they get to big..

LM Start	2.46	Rating **	М	Issue No.	10			
LM End	2.48	Issue Type +	Ma	Location *	LS			
Category Earthen Levee			GPS Latitude/Longitude					
Calegory				Start		End		
Item	Vegetatio	n		39.4653	70°	39.465410°		
пеш	em			-121.6220	74°	-121.621736°		
DWR ID DWR_ST0005_01_f _ 2016_10								
	Comment Code							

V2 : Remove the wild growth other than native grasses from the levee slopes.

Inspector Comment

Blackberry bushes are covering landside slope.

Photo 1 of 1 : FA_2016_ST0005_289_10_20160912_00014.jpg



View of blackberries that are covering landside slope.

Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	2.53	Rating **	U	Issue No.		3			
LM End	3.24	Issue Type +	Ma	Location *		LS			
Category	evee		GPS La	atitud	le/Longitude				
Calegory				Start		End			
Item	Trim / Thi		39.4655	32°	39.470155°				
пеш			-121.620753 ° -121.609						
DWR ID DWR_ST0005_01_f _ 2016_3									
		Comn	nent Cod	le					
T2 : Thin t	rees to allo	w visibility of	the grou	nd and roo	m to	flood fight.			
		Inspecto	or Comm	ent					



Very dense trees and limbs that completely obstruct visibility and flood fight access to the levee slope and the landside easement.

Photo 1 of 1: FA_2016_ST0005_289_6_20160912_00013.jpg

LM Start	2.63	Rating **	U	Issue No.	6			
LM End	2.63	Issue Type +	Ма	Location *	LS			
Category Earthen Levee				GPS Latitude/Longitude				
Category	ategory			Start		End		
Item	Vegetatio	n		39.4660	25°	39.466025°		
пеш				-121.6189				
DWR ID DWR_ST0005_01_f _ 2016_6								
	Comment Code							

V2 : Remove the wild growth other than native grasses from the levee slopes.

Inspector Comment

Blackberries covering slope.



View of blackberries that are covering the landside slope.

LM Start	2.93	Rating **	М	Issue No.	23			
LM End	3.09	Issue Type +	Ma	Location *	WS			
Category Earthen Levee				GPS Latitude/Longitude				
Category	Category			Start		End		
Item	Vegetatio	n		39.468492 °		39.469304	•	
пеш				-121.6144	17°	-121.611733	٥	
DWR ID DWR_ST0005_01_s _ 2016_23								
	Comment Code							

V1 : Control annual grass and weeds on the levee slopes and easements.

Inspector Comment

Annual grasses need to be maintained.

Photo 1 of 1: FA_2016_ST0005_289_23_20160912_00012.jpg



View of annual grasses that need to be maintained.

* Location	** Rating		+ Issue Type
LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	Ma : Maintenance Deficiancy Ob : Design & System Obsolescence En : Enforcement

Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	3.25	Rating **	М	Issue No.	26		
LM End	3.25	Issue Type +	En	Location *	WS		
Category	Suppleme	ental	GPS Latitude/Longitude				
Calegory		Start		End			
Item	DWR UCI	39.470269°		39.470269°			
пеш				-121.6092	29°	-121.609229°	
DWR ID							
Comment Code							

Inspector Comment

FS_ID:47972 DS_ID:17044 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Indicator Found

UCIP Comments: 4/26/2016 Unable to access area near structure.5/14/2013 Same as last inpsection.11/14/2012

Abandoned Structure: WS- reminince of gates and concrete standpipe; LS-reminince of concrete headwall and pump station.

FIELD_STRUCT_DESC: *ABANDONED* [Western Canal Head Gate Inlet Structure] 1 of 2: 96-inch by 96-inch (8-foot by 8-foot) reinforced concrete culverts through the levee 25 feet below the crown. Three slide gates on the waterside (WS) end. Concrete stairs on the WS slope.

Concrete headwall at both WS and landside (LS) toes. [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 152, March 1957 (Station 170+00)]

FS Date: 5/3/2016 12:36:00 PM

LM Start	3.25	Rating **	М	Issue No.	26 (cont)
LM End	3.25	Issue Type +	En	Location *	WS

Photo 1 of 2: UCIP_FA_2016_47972_21682.jpg



View of levee crown looking downstream.

Photo 2 of 2: UCIP_FA_2016_47972_21681.jpg



View of levee crown at right bend.

Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	3.25	Rating **	М	Issue No.	27		
LM End	3.25	Issue Type +	En	Location *	WS		
Category				GPS Latitude/Longitude			
Calegory		Start		End			
Item	DWR UCIP Field Study			39.47026	9 °	39.470269°	
пеш			-121.60922	9 °	-121.609229 °		
DWR ID							
Comment Code							

Inspector Comment

FS_ID:47973 DS_ID:17056 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Indicator Found

UCIP Comments: 4/26/2016 Unable to access area near structure.5/14/2013 Same as last inspection.11/14/2012

Abandoned Structure: WS- reminince of gates and concrete standpipe;

LS-reminince of concrete headwall and pump station.

FIELD_STRUCT_DESC: *ABANDONED* [Western Canal Head Gate Inlet Structure] 2 of 2: 72-inch by 96-inch (8-foot by 8-foot) reinforced concrete culvert through the levee 25 feet below the crown. Three slide gates on the waterside (WS) end. Concrete stairs on the WS slope. Concrete headwall at both toes. [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 152, March 1957 (Station 170+00)]

FS Date: 5/3/2016 12:37:00 PM

LM Start	3.25	Rating **	М	Issue No.	27 (cont)
LM End	3.25	Issue Type +	En	Location *	WS

Photo 1 of 2: UCIP_FA_2016_47973_21697.jpg



View of levee crown looking downstream.

Photo 2 of 2: UCIP FA 2016 47973 21696.jpg



View of levee crown at a right bend.

Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	3.26	Rating **	М	Issue No.		4	
LM End	3.27	Issue Type +	Ma	Location *	WS		
Catagoni	evee	GPS Latitude/Longitude					
Calegory	Category					End	
Item	Trim / Thi	n Trees		39.470433 °		39.470558°	
item			-121.609200°		-121.609215 °		
DWR ID DWR_ST0005_01_s _ 2013_4							
Comment Code							
T3 : Trim and thin trees to allow visibility of the ground and room to flood fight.							
Inspector Comment							
Small trees 4" in diameter at chest height should be removed before they get to big.							



Waterside trees. Small trees 4" in diameter at chest height should be removed before they get to big.